

REMARKS

Claims 1-15 are pending in this application. By this Amendment, claim 1 is amended. The specification supports amended claim 1 at least at page 7, lines 10-13; page 20, lines 10-15; page 30, lines 21-26; page 34, line 35 to page 35, line 4; page 38, lines 13-18; and Tables 4, 5, 6 and 8. Thus, no new matter is added. In view of the amendments and the following remarks, reconsideration and allowance are respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance (for the reasons discussed herein); (b) do not raise any new issue requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution); (c) satisfy a requirement of form asserted in the previous Office Action; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

I. Information Disclosure Statement

An Information Disclosure Statement with Form PTO-1449, along with English-language abstracts of eleven Japanese language references, was submitted with the May 12, 2003, Amendment. On the copy of the Form PTO-1449 returned with the Office Action, it is unclear whether the contents of the eleven English-language abstracts have been considered of record. In a July 24, 2003 telephone conference between Applicants' representative and Examiner Sadula, the Examiner indicated that copies of the English-language translations had not been received.

Once again, attached hereto are the English-language abstracts of the cited references. The Examiner is respectfully requested to consider the disclosed information, and initial and

return to Applicants a copy of the Form PTO-1449 indicating that the references, including the English-language abstracts, have been considered of record. For the Examiner's convenience, attached hereto is a copy of the Form PTO-1449.

II. Rejection under §102

The Office Action rejects claims 1-15 under 35 U.S.C. §102(b) over U.S. Patent No. 5,441,845 to Oskinoshima et al. ("Oskinoshima I"). Applicants respectfully traverse this rejection.

Amended claim 1 is directed to a liquid crystal alignment agent used in a method for alignment of liquid crystal molecules that form a liquid crystal alignment film comprising irradiating a thin alignment film formed on a substrate with polarized light or electron rays and aligning the liquid crystal molecules on the substrate without any rubbing treatment. Oskinoshima I does not teach such an agent.

Oshinoshima I describes a photosensitive resin composition that includes a polyimide precursor and a photosensitive diazoquinone compound (col. 2, lines 23-51). Oshinoshima I states that its composition exhibits "good sensitivity on irradiation with light." (Col. 2, lines 61-62). The teachings of Oshinoshima I further limit the type of light irradiation to "light rays such as visible light, UV light and the like." (Col. 8, lines 53-54). The exemplary teachings utilize a "UV ray from a super high pressure mercury lamp of 250 W." (Col. 12, lines 9-10).

In contrast to Oshinoshima I, the claimed liquid crystal alignment agent does not require such processing. The claimed compound can provide alignment to liquid crystals simply by applying the agent on a substrate to form a liquid crystal alignment film and irradiating with polarized light. Oshinoshima I does not teach photosensitive agents or resin compositions treated by irradiating a thin alignment film formed on a substrate with polarized light, as claimed. For this reason alone, Oshinoshima I does not teach the liquid crystal alignment agent of claim 1, and claims 2-15 dependent thereon.

Thus, claim 1-15 are not anticipated by Oshinoshima I. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

III. Rejection under §103

The Office Action rejects claims 1-15 under 35 U.S.C. §103(a) over U.S. Patent No. 6,025,895 to Yazaki et al. ("Yazaki") in view of either Oshinoshima I or U.S. Patent No. 5,292,619 to Oshinoshima ("Oshinoshima II"). Applicants respectfully traverse the rejection.

The Office Action asserts that Yazaki describes a liquid crystal display that uses a polyimide alignment film reportedly administered without a "rubbing treatment." The Office Action recognizes that Yazaki does not describe any composition of its alignment film and therefore Yazaki fails to describe a polymer having the specific chemical structure as claimed. The Office Action relies on Oshinoshima I and/or Oshinoshima II for teaching polyimide film materials that do not require rubbing, and states that such polyimides fall within the formulas of claim 1. The Office Action concludes that it would have been obvious for one of ordinary skill in the art to utilize the Oshinoshima I and II compounds in the device or method as claimed.

Yazaki describes a liquid crystal display assembly that includes a polyimide alignment film on a pair of substrates, wherein rubbing treatment is not administered. Between the substrates, Yazaki applies a polymer dispersion liquid crystal in which liquid crystal and polymer are in a state of "mutual orientation dispersion" (Abstract). Yazaki prefers that the substrate surfaces not undergo rubbing treatment so that the liquid crystal can remain randomly oriented roughly parallel to the substrate surface (col. 3, lines 1-4). Thus, the motivation for one of ordinary skill in the art, from the teachings of Yazaki, would have been limited to the use of a polyimide film, without a rubbing treatment, to maintain randomly oriented crystal molecules. Yazaki's teachings are not directed to a method for the alignment of liquid crystal molecules as claimed.

In addition, contrary to the position taken in the Office Action, Yazaki does in fact teach the composition of its alignment film. Yazaki's exemplary embodiments use a polyimide alignment membrane, "Optomer AL1254," made by Japan Synthetic Rubber Co. (col. 4, lines 43-44). As further again detailed in the examples, rubbing treatment is not performed on the membrane, "in order to parallel orient the liquid crystal randomly near the substrate surfaces." (col. 4, lines 45-47).

One of ordinary skill in the art would have had no motivation to substitute the polyimide membrane described in Yazaki for anything taught or suggested in Oshinoshima I or Oshinoshima II. The cited references do not teach or suggest the use of any agent in a method for the alignment of liquid crystal molecules with polarized light as claimed. Moreover, the Office Action has failed to provide any reason or suggestion to make such a substitution.

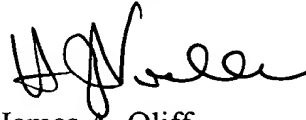
For at least these reasons alone, Yazaki, Oshinoshima I and Oshinoshima II, alone or in combination would not have rendered obvious the claimed liquid crystal alignment agent. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-15 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

PTO-1449 (May 12, 2003)
11 English-language abstracts

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